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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,330	12/23/2005	Andreas Schilling	1093-145 PCT/US	5691

7590  
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08/20/2008

EXAMINER
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ASSAF, FAYEZ G

ART UNIT	PAPER NUMBER
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2872

MAIL DATE	DELIVERY MODE
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08/20/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/562,330	<b>Applicant(s)</b> SCHILLING ET AL.	
	<b>Examiner</b> Fayez G. Assaf	<b>Art Unit</b> 2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 22 and 24-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11, 16-20 and 23 is/are rejected.
- 7) ☒ Claim(s) 12-15 and 21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/23/05;4/5/07;7/27/07;8/7/08</u> .                          | 6) <input type="checkbox"/> Other: ____.                          |

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election of Species 1: claims 1-21 and 23 in the reply filed on 5/7/2008 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election **without** traverse (MPEP § 818.03(a)).

### ***Claim Objections***

Claims 11 and 17 are objected to because of the following:

Claim 11, line 3, the phrase "more than 300 lines per mm, in particular a spatial frequency of" is extraneous.

Claim 17, line 3 and line 4, the word "preferably" is extraneous.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at

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the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-11, 16-20 and 23 are rejected under 35 U.S.C.

103(a) as being unpatentable over Mueller et al. (DE 10044465).

Mueller discloses an optical security element (Fig. 5 to Fig. 10) having a substrate layer , wherein a relief structure ( 19 of Fig. 2) defined by relief parameters is shaped in a surface region of the substrate layer, which region is defined by an X-axis and a Y- axis (i.e. normal axis defining 2 of Fig. 1), for producing an optically perceptible effect, wherein characterized in that one or more of the relief parameters defining the relief structure in the surface region are varied periodically in accordance with a periodic parameter variation function (Abstract, see Fig. 5 to Fig. 10), that wherein the surface region is divided into one or more pattern regions (6-10 of Fig. 4) and a background region (11 of Fig. 4), and wherein one or more of the relief parameters defining the relief structure relief shape, relief depth, spatial frequency and azimuth angle in the background region and the one or more pattern regions are varied periodically in accordance with a periodic parameter variation function, (line 43-45 of Col. 2; line 1-4 of Col. 5, line 28-36 of Col. 9), and the one or more of the relief parameters defining the relief structure relief

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shape, relief depth, spatial frequency and azimuth angle in the one or more pattern regions (See Fig. 5 to Fig. 10) are varied in accordance with a parameter variation function which is phase-displaced with respect to the parameter variation function of the background region.

Mueller discloses the claimed invention including varying the azimuth angle periodically. The reference does not teach the range being from 20 micrometer to 300 micrometer or the spatial frequency being between 800 and 1200. However it is not inventive to discover the optimum or workable ranges where the general conditions of a claim are disclosed in the prior art.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to discover such range of values by routine experimentation, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. One would have been motivated to select said range of azimuth angle and spatial frequency for the purpose of having patterns visible to the naked eyes while other patterns requiring magnification, thus improving the security features.

*In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235.

Regarding claim 2, Mueller discloses the phase displacement of the parameter variation function between the pattern region and the background region being about 180 degrees (see Col. 10).

Regarding claim 4, Mueller discloses varying the azimuth angle periodically (line 40 to line 43 of Col. 2) in accordance with parameter variation function.

Regarding claims 5-9, the invention of Mueller as modified discloses the recited features.

Regarding claim 10, Mueller does not explicitly teach the diffraction grating being composed of a plurality of lines arranged in concentric circles.

However, such feature is well known in security optical elements.

It would have been obvious, at the time the invention was made, to a person having ordinary skill in the art to utilize such grating so as to accommodate particular range of viewable angles.

#### ***Allowable Subject Matter***

Claims 12-15 and 21 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 12-15 are allowable over the prior art for at least the reason that the prior art fails to teach or reasonably suggest the spatial frequency being varied periodically in accordance with the parameter variation function as set forth in the claimed combination.

Claim 21 is allowable over the prior art for at least the reason that the prior art fails to teach or reasonably suggest the width of the troughs of the relief structure being varied periodically in accordance with the parameter variation function as set forth in the claimed combination.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Antes (US 5,032,003).

Lee (US 6,088,161).

Staub et al. (US 5,969,863).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fayez G. Assaf whose telephone number is (571) 272-2307. The examiner can normally be reached on 8-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephone Allen can be reached on (571) 272-2434. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Fayez G. Assaf/  
Primary Examiner, Art Unit  
2872

August 17, 2008



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